

**Abstract**

The phases of outputs are made different by 180° to allow unbalanced inputs to be output as balanced outputs.

5 A MEMS resonator (101) has an input electrode (111) for inputting a signal, output electrodes (first output electrode (112), second output electrode (113)) for outputting balanced output signals from unbalanced input signals, and an oscillator facing the input electrode (111), first output electrode (112) and second output electrode (113) via a space (121), wherein the first output electrode (112) is disposed at a position having a phase different by 180° from the phase of the input electrode (111) and the second output electrode (113) is disposed at a position having the same phase as that  
10 of the input electrode (111).  
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